

4. (New) The composition of claim 1, wherein at least one nucleotide of the oligonucleotide is replaced by a corresponding nucleotide analog or derivative.
5. (New) The composition of claim 1, wherein at least one nucleotide of the sequence is replaced by a corresponding nucleotide analog or derivative.
6. (New) The composition of claim 1, wherein at least two nucleotides of the oligonucleotide are linked by a nuclease-resistant bond.
7. (New) The composition of claim 6, wherein the nuclease-resistant bond is selected from the group consisting of phosphorothioate, methylphosphonate, and peptide bonds.
8. (New) The composition of claim 1, wherein the oligonucleotide is 10-50 nucleotides long.
9. (New) The composition of claim 1, wherein the oligonucleotide is 13-30 nucleotides long.
10. (New) The composition of claim 1, wherein the oligonucleotide is 17-21 nucleotides long.
11. (New) The composition of claim 1, wherein the sequence represents the 3' terminus of the oligonucleotide.
12. (New) The composition of claim 1, wherein the oligonucleotide comprises the sequence selected from the group consisting of GGGGG, GAGGG, GGGAG, GTGGG, and GGGTG.
13. (New) The composition of claim 1, wherein the oligonucleotide is selected from the group consisting of SEQ ID NO:2-8, SEQ ID NO:10-16, and SEQ ID NO:37.

14. (New) The composition of claim 13, wherein at least one nucleotide is replaced by a corresponding nucleotide analog or derivative.

15. (New) The composition of claim 1, wherein the antigen is a tumor-specific antigen or a viral antigen.

16. (New) A vaccine further comprising an oligonucleotide comprising the sequence:

$N_1 - N_2 - G - N_3 - G$

wherein N_1 represents any nucleotide if N_2 and N_3 are G; N_2 represents any nucleotide if N_1 and N_3 are G; and N_3 represents any nucleotide if N_1 and N_2 are G, wherein the oligonucleotide does not comprise a CG dinucleotide.

17. (New) The vaccine of claim 16, wherein at least one nucleotide of the oligonucleotide is replaced by a corresponding nucleotide analog or derivative.

18. (New) The vaccine of claim 16, wherein at least one nucleotide of the sequence is replaced by a corresponding nucleotide analog or derivative.

19. (New) The vaccine of claim 16, wherein at least two nucleotides of the oligonucleotide are linked by a nuclease-resistant bond.

20. (New) The vaccine of claim 19, wherein the nuclease-resistant bond is selected from the group consisting of phosphorothioate, methylphosphonate, and peptide bonds.

21. (New) The vaccine of claim 16, wherein the oligonucleotide is 10-50 nucleotides long.

22. (New) The vaccine of claim 16, wherein the oligonucleotide is 13-30 nucleotides long.

23. (New) The vaccine of claim 16, wherein the oligonucleotide is 17-21 nucleotides long.

24. (New) The vaccine of claim 16, wherein the sequence represents the 3' terminus of the oligonucleotide.

25. (New) The vaccine of claim 16, wherein the oligonucleotide comprises the sequence selected from the group consisting of GGGGG, GAGGG, GGGAG, GTGGG, and GGGTG.

26. (New) The vaccine of claim 16, wherein the oligonucleotide is selected from the group consisting of SEQ ID NO:2-8, SEQ ID NO:10-16, and SEQ ID NO:37.

27. (New) The vaccine of claim 26, wherein at least one nucleotide is replaced by a corresponding nucleotide analog or derivative.

28 (New) A composition comprising:

an oligonucleotide comprising the sequence:

$N_1 - N_2 - G - N_3 - G$

wherein N_1 represents any nucleotide if N_2 and N_3 are G; N_2 represents any nucleotide if N_1 and N_3 are G; and N_3 represents any nucleotide if N_1 and N_2 are G, wherein the oligonucleotide does not comprise a CG dinucleotide, and

an antimicrobial or other pharmaceutical agent.

29 (New) The composition of claim 28, wherein the oligonucleotide is DNA.

30 (New) The composition of claim 28, wherein the oligonucleotide is RNA.

31. (New) The composition of claim 28, wherein at least one nucleotide of the oligonucleotide is replaced by a corresponding nucleotide analog or derivative.

32 (New) The composition of claim 28, wherein at least one nucleotide of the sequence is replaced by a corresponding nucleotide analog or derivative.

33. (New) The composition of claim 28, wherein at least two nucleotides of the oligonucleotide are linked by a nuclease-resistant bond.

34. (New) The composition of claim 33, wherein the nuclease-resistant bond is selected from the group consisting of phosphorothioate, methylphosphonate, and peptide bonds.

35. (New) The composition of claim 28, wherein the oligonucleotide is 10-50 nucleotides long.

36. (New) The composition of claim 28, wherein the oligonucleotide is 13-30 nucleotides long.

37. (New) The composition of claim 28, wherein the oligonucleotide is 17-21 nucleotides long.

38. (New) The composition of claim 28, wherein the sequence represents the 3' terminus of the oligonucleotide.

39. (New) The composition of claim 28, wherein the oligonucleotide comprises the sequence selected from the group consisting of GGGGG, GAGGG, GGGAG, GTGGG, and GGGTG.

40. (New) The composition of claim 28, wherein the oligonucleotide is selected from the group consisting of SEQ ID NO:2-8, SEQ ID NO:10-16, and SEQ ID NO:37.

41. (New) The composition of claim 40, wherein at least one nucleotide is replaced by a corresponding nucleotide analog or derivative.

42. (New) A method for enhancing a cell-mediated immune response, comprising:
administering to a subject an oligonucleotide comprising the sequence:

N₁-N₂-G-N₃-G

wherein N₁ represents any nucleotide if N₂ and N₃ are G; N₂ represents any nucleotide if N₁ and N₃ are G; and N₃ represents any nucleotide if N₁ and N₂ are G, wherein the oligonucleotide does not comprise a CG dinucleotide, in an effective amount to promote T cell activation.

43. (New) The method of claim 42, wherein the oligonucleotide is DNA.

44. (New) The method of claim 42, wherein the oligonucleotide is RNA.

45. (New) The method of claim 42, wherein at least one nucleotide of the oligonucleotide is replaced by a corresponding nucleotide analog or derivative.

46. (New) The method of claim 42, wherein at least one nucleotide of the sequence is replaced by a corresponding nucleotide analog or derivative.

47. (New) The method of claim 42, wherein at least two nucleotides of the oligonucleotide are linked by a nuclease-resistant bond.

48. (New) The method of claim 47, wherein the nuclease-resistant bond is selected from the group consisting of phosphorothioate, methylphosphonate, and peptide bonds.

49. (New) The method of claim 42, wherein the oligonucleotide is 10-50 nucleotides long.

50. (New) The method of claim 42, wherein the oligonucleotide is 13-30 nucleotides long.

51. (New) The method of claim 42, wherein the oligonucleotide is 17-21 nucleotides long.

52. (New) The method of claim 42, wherein the sequence represents the 3' terminus of the oligonucleotide.

53. (New) The method of claim 42, wherein the oligonucleotide comprises the sequence selected from the group consisting of GGGGG, GAGGG, GGGAG, GTGGG, and GGGTG.

54. (New) The method of claim 42, wherein the oligonucleotide is selected from the group consisting of SEQ ID NO:2-8, SEQ ID NO:10-16, and SEQ ID NO:37.

55. (New) The method of claim 54, wherein at least one nucleotide is replaced by a corresponding nucleotide analog or derivative.

56. (New) A method for inducing cytotoxic T lymphocyte (CTL) activation in a subject, comprising:

administering to a subject an oligonucleotide comprising the sequence:

$N_1 - N_2 - G - N_3 - G$

wherein N_1 represents any nucleotide if N_2 and N_3 are G; N_2 represents any nucleotide if N_1 and N_3 are G; and N_3 represents any nucleotide if N_1 and N_2 are G, wherein the oligonucleotide does not comprise a CG dinucleotide, in an effective amount to induce CTL activation in the subject.

57. (New) A method for immunizing a subject against a viral infection, comprising:

administering to a subject an oligonucleotide comprising the sequence:

$N_1 - N_2 - G - N_3 - G$

wherein N_1 represents any nucleotide if N_2 and N_3 are G; N_2 represents any nucleotide if N_1 and N_3 are G; and N_3 represents any nucleotide if N_1 and N_2 are G, wherein the oligonucleotide does not comprise a CG dinucleotide, in an effective amount to immunize the subject against viral infection.

58. (New) The method of claim 57, wherein the oligonucleotide is DNA.

59. (New) The method of claim 57, wherein the oligonucleotide is RNA.

60. (New) The method of claim 57, wherein at least one nucleotide of the oligonucleotide is replaced by a corresponding nucleotide analog or derivative.

61. (New) The method of claim 57, wherein at least one nucleotide of the sequence is replaced by a corresponding nucleotide analog or derivative.

62. (New) The method of claim 57, wherein at least two nucleotides of the oligonucleotide are linked by a nuclease-resistant bond.

63. (New) The method of claim 62, wherein the nuclease-resistant bond is selected from the group consisting of phosphorothioate, methylphosphonate, and peptide bonds.

64. (New) The method of claim 57, wherein the oligonucleotide is 10-50 nucleotides long.

65. (New) The method of claim 57, wherein the oligonucleotide is 13-30 nucleotides long.

66. (New) The method of claim 57, wherein the oligonucleotide is 17-21 nucleotides long.

67. (New) The method of claim 57, wherein the sequence represents the 3' terminus of the oligonucleotide.

68. (New) The method of claim 57, wherein the oligonucleotide comprises the sequence selected from the group consisting of GGGGG, GAGGG, GGGAG, GTGGG, and GGGTG.

69. (New) The method of claim 57, wherein the oligonucleotide is an oligonucleotide of any one of SEQ ID NO:2-7 or SEQ ID NO:10-17.

70. (New) The method of claim 69, wherein at least one nucleotide is replaced by a corresponding nucleotide analog or derivative.

71. (New) A method for treating a subject having a tumor, comprising:

administering to a subject having a tumor an oligonucleotide comprising the sequence:

$N_1 - N_2 - G - N_3 - G$

wherein N_1 represents any nucleotide if N_2 and N_3 are G; N_2 represents any nucleotide if N_1 and N_3 are G; and N_3 represents any nucleotide if N_1 and N_2 are G, wherein the oligonucleotide does not comprise a CG dinucleotide, in order to treat the subject.

72. (New) The method of claim 71, wherein the oligonucleotide is DNA.

73. (New) The method of claim 71, wherein the oligonucleotide is RNA.

74. (New) The method of claim 71, wherein at least one nucleotide of the oligonucleotide is replaced by a corresponding nucleotide analog or derivative.

75. (New) The method of claim 71, wherein at least one nucleotide of the sequence is replaced by a corresponding nucleotide analog or derivative.

76. (New) The method of claim 71, wherein at least two nucleotides of the oligonucleotide are linked by a nuclease-resistant bond.

77. (New) The method of claim 76, wherein the nuclease-resistant bond is selected from the group consisting of phosphorothioate, methylphosphonate, and peptide bonds.

78. (New) The method of claim 71, wherein the oligonucleotide is 10-50 nucleotides long.

79. (New) The method of claim 71, wherein the oligonucleotide is 13-30 nucleotides long.

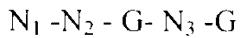
80. (New) The method of claim 71, wherein the oligonucleotide is 17-21 nucleotides long.

81. (New) The method of claim 71, wherein the sequence represents the 3' terminus of the oligonucleotide.

82. (New) The method of claim 71, wherein the oligonucleotide comprises the sequence selected from the group consisting of GGGGG, GAGGG, GGGAG, GTGGG, and GGGTG.

83. (New) The method of claim 71, further comprising administering a tumor-specific antigen.

84. (New) A method for treating or preventing bacterial or parasitic infections, comprising: administering to a subject an oligonucleotide comprising the sequence:



wherein N_1 represents any nucleotide if N_2 and N_3 are G; N_2 represents any nucleotide if N_1 and N_3 are G; and N_3 represents any nucleotide if N_1 and N_2 are G, wherein the oligonucleotide does not comprise a CG dinucleotide, in order to treat or prevent bacterial or parasitic infection in the subject.

85. (New) The method of claim 84, wherein the oligonucleotide is DNA.

86. (New) The method of claim 84, wherein the oligonucleotide is RNA.

87. (New) The method of claim 84, wherein at least one nucleotide of the oligonucleotide is replaced by a corresponding nucleotide analog or derivative.

88. (New) The method of claim 84, wherein at least one nucleotide of the sequence is replaced by a corresponding nucleotide analog or derivative.

89. (New) The method of claim 84, wherein at least two nucleotides of the oligonucleotide are linked by a nuclease-resistant bond.

90. (New) The method of claim 89, wherein the nuclease-resistant bond is selected from the group consisting of phosphorothioate, methylphosphonate, and peptide bonds.

91. (New) The method of claim 84, wherein the oligonucleotide is 10-50 nucleotides long.

92. (New) The method of claim 84, wherein the oligonucleotide is 13-30 nucleotides long.

93. (New) The method of claim 84, wherein the oligonucleotide is 17-21 nucleotides long.

94. (New) The method of claim 84, wherein the sequence represents the 3' terminus of the oligonucleotide.

95. (New) The method of claim 84, wherein the oligonucleotide comprises the sequence selected from the group consisting of GGGGG, GAGGG, GGGAG, GTGGG, and GGGTG.

96. (New) The method of claim 84, further comprising administering an antigen.

97. (New) A method for treating or preventing spontaneous abortion, comprising: administering to a subject an oligonucleotide comprising the sequence:

$N_1 - N_2 - G - N_3 - G$

wherein N_1 represents any nucleotide if N_2 and N_3 are G; N_2 represents any nucleotide if N_1 and N_3 are G; and N_3 represents any nucleotide if N_1 and N_2 are G, in order to treat or prevent spontaneous abortion in the subject.

98. (New) The method of claim 97, wherein the oligonucleotide is DNA.

99. (New) The method of claim 97, wherein the oligonucleotide is RNA.

100. (New) The method of claim 97, wherein at least one nucleotide of the oligonucleotide is replaced by a corresponding nucleotide analog or derivative.

101. (New) The method of claim 97, wherein at least one nucleotide of the sequence is replaced by a corresponding nucleotide analog or derivative.

102. (New) The method of claim 97, wherein at least two nucleotides of the oligonucleotide are linked by a nuclease-resistant bond.

103. (New) The method of claim 102, wherein the nuclease-resistant bond is selected from the group consisting of phosphorothioate, methylphosphonate, and peptide bonds.

104. (New) The method of claim 97, wherein the oligonucleotide is 10-50 nucleotides long.

105. (New) The method of claim 97, wherein the oligonucleotide is 13-30 nucleotides long.

106. (New) The method of claim 97, wherein the oligonucleotide is 17-21 nucleotides long.

107. (New) The method of claim 97, wherein the sequence represents the 3' terminus of the oligonucleotide.

108. (New) The method of claim 97, wherein the oligonucleotide comprises the sequence selected from the group consisting of GGGGG, GAGGG, GGGAG, GTGGG, and GGGTG.

109. (New) A method for activating NK cells, comprising:

contacting an NK cell with an oligonucleotide comprising the sequence:

$N_1 - N_2 - G - N_3 - G$

wherein N_1 represents any nucleotide if N_2 and N_3 are G; N_2 represents any nucleotide if N_1 and N_3 are G; and N_3 represents any nucleotide if N_1 and N_2 are G, wherein the oligonucleotide does not comprise a CG dinucleotide, in an effective amount to activate the NK cell.

110. (New) A method for enhancing cellular uptake of an agent, comprising:

contacting a cell with an agent conjugated to an oligonucleotide comprising the sequence:

$N_1 - N_2 - G - N_3 - G$

wherein N₁ represents any nucleotide if N₂ and N₃ are G; N₂ represents any nucleotide if N₁ and N₃ are G; and N₃ represents any nucleotide if N₁ and N₂ are G, in order to enhance cellular uptake, and wherein the agent is not a nucleic acid.

111. (New) The method of claim 110, wherein the agent is selected from the group consisting of a protein, (poly)peptide, drug, hormone, and toxin.

112. (New) The method of claim 110, wherein the agent is a (poly)peptide.

113. (New) An oligonucleotide comprising the sequence: GTGGGGGTG, wherein at least two nucleotides are linked by a phosphorothioate, methylphosphonate or peptide bond.

114. (New) The oligonucleotide of claim 113, wherein the oligonucleotide is DNA.

115. (New) The oligonucleotide of claim 113, wherein the oligonucleotide is RNA.

116. (New) The oligonucleotide of claim 113, wherein at least one nucleotide of the oligonucleotide is replaced by a corresponding nucleotide analog or derivative.

117. (New) The oligonucleotide of claim 113, wherein at least one nucleotide of the sequence is replaced by a corresponding nucleotide analog or derivative.

118. (New) The oligonucleotide of claim 113, wherein the oligonucleotide is 10-50 nucleotides long.

119. (New) The oligonucleotide of claim 113, wherein the oligonucleotide is 13-30 nucleotides long.

120. (New) The oligonucleotide of claim 113, wherein the oligonucleotide is 17-21 nucleotides long.

121. (New) A pharmaceutical preparation comprising:

an oligonucleotide comprising the sequence:

$N_1 - N_2 - G - N_3 - G$

wherein N_1 represents any nucleotide if N_2 and N_3 are G; N_2 represents any nucleotide if N_1 and N_3 are G; and N_3 represents any nucleotide if N_1 and N_2 are G, wherein the oligonucleotide does not comprise a CG dinucleotide, and wherein at least one nucleotide of $N_1 - N_2 - G - N_3 - G$ is replaced by a corresponding nucleotide analog or derivative, and a pharmaceutically acceptable carrier.

122. (New) The pharmaceutical preparation of claim 121, wherein the oligonucleotide is DNA.

123. (New) The pharmaceutical preparation of claim 121, wherein the oligonucleotide is RNA.

124. (New) The pharmaceutical preparation of claim 121, wherein at least one nucleotide of the oligonucleotide is replaced by a corresponding nucleotide analog or derivative.

125. (New) The pharmaceutical preparation of claim 121, wherein at least one nucleotide of the sequence is replaced by a corresponding nucleotide analog or derivative.

126. (New) The pharmaceutical preparation of claim 121, wherein at least two nucleotides of the oligonucleotide are linked by a nuclease-resistant bond.

127. (New) The pharmaceutical preparation of claim 126, wherein the nuclease-resistant bond is selected from the group consisting of phosphorothioate, methylphosphonate, and peptide bonds.

128. (New) The pharmaceutical preparation of claim 121, wherein the oligonucleotide is 10-50 nucleotides long.

129. (New) The pharmaceutical preparation of claim 121, wherein the oligonucleotide is 13-30 nucleotides long.

130. (New) The pharmaceutical preparation of claim 121, wherein the oligonucleotide is 17-21 nucleotides long.

131. (New) The pharmaceutical preparation of claim 121, wherein the sequence represents the 3' terminus of the oligonucleotide.

132. (New) The pharmaceutical preparation of claim 121, wherein the oligonucleotide comprises the sequence selected from the group consisting of GGGGG, GAGGG, GGGAG, GTGGG, and GGGTG.

133. (New) The pharmaceutical preparation of claim 121, wherein the oligonucleotide is selected from the group consisting of SEQ ID NO:2-8, SEQ ID NO:10-16, and SEQ ID NO:37.

134. (New) The pharmaceutical preparation of claim 133, wherein at least one nucleotide is replaced by a corresponding nucleotide analog or derivative.

135. (New) The pharmaceutical preparation of claim 121, wherein the oligonucleotide comprises the sequence TTGGGGGTT.

136. (New) A composition comprising an oligonucleotide having a sequence comprising SEQ ID NO:1-16 or SEQ ID NO:18-19.

137. (New) The oligonucleotide of claim 136, wherein at least two nucleotides are linked by a phosphorothioate, methylphosphonate or peptide bond.

138. (New) The oligonucleotide of claim 136, wherein at least one nucleotide is replaced by a corresponding nucleotide analog or derivative.